

RESPONSE TO EPA COMMENTS

Date: **October 30, 1998**

To: **Amy Williams, EPA Region 4**

From: **Edd Frazier**
 frazier@nrepc.nr.state.ky.us
 Kentucky Division for Air Quality

Subject: **Response to Comments on Draft Title V Permit**
 Southwire Company
 Permit No. V-98-008

After our telephone conversation on Thursday, October 29, 1998 DAQ submits the following responses to EPA Region 4 comments on the above referenced source.

EPA Comments:

1. Compliance Demonstration: On page 5 (Condition B.4.b) the calculation, $PE = PW \times PEF$, does not include particulate emissions from fuel burning. Emissions from fuel burning in the melt furnaces and holding furnaces (Emission units 01, 02, 03, and 04), should be included in the particulate emission calculations.

Response:

EPA retracted this comment. However after further review, it has been determined that the stack test emission factor will account for fuel particulate emissions. Therefore, the particulate emission equation does not require additional fuel calculations and has been deleted.

EPA Comments:

2. Compliance Demonstration: The sulfur dioxide limit for Emission Units 01, 02, 03, and 04 (page 5, Condition B.2) is 239 grains per 100 dscf at zero percent oxygen. On pages 7, 10, and 13 (Condition B.2) the sulfur dioxide limit specified for Emission Units 14, 13, and 21 is 28.63 grains/100 dscf at zero percent oxygen. The permit does not contain periodic monitoring requirements to provide reasonable assurance of compliance with these standards.

Response:

There is little likelihood that the source will exceed the emission limitations; therefore, monitoring is not required. This is based upon established emission factors using the worst case fuel (backup fuel) at maximum burner capacity. A more detail explanation is in the Statement of Basis.

EPA Comments:

3. Practical Enforceability: On pages 5, 8, 10, and 13, Condition B.4.b specifies that process weight is to be determined in average hourly tons averaged over a one month period to assure that the particulate emission limit is being met. However, the emission limit for particulate emissions is an hourly limit averaged over three hours (see Condition B.2.b). The averaging time for the emission limit and the method of determining compliance with the limit are inconsistent. 40 CFR 70.6 states that permits shall include periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit. Since both the process weight equation and the specific emission limitation are expressed in pounds per hour, the relevant time period for periodic monitoring, in this case, is an hourly value averaged over three hours. Therefore, the monthly averaging period is inappropriate for this monitoring requirement and should be changed.

Response:

In order for the emission limitation to be practically enforceable, it specifies the compliance method and the averaging time to be used during a stack test where periodic monitoring provides reasonable assurance that the limitation is being met. Based upon the "Periodic Monitoring Guidance", records of material inputs would provide adequate periodic monitoring when the likelihood of the source exceeding the emission limits are extremely low. Additionally, this document states that in many instances the duration of periodic monitoring will not match the averaging time for the emission limitation. It would be impractical for the source to maintain records using the emission limitation averaging time.

EPA Comments:

4. Practical Enforceability: On page 5, Condition B.4.b states that the particulate emission factor to be used when calculating particulate emissions shall be "determined from the compliance test required in Section D or other emission test or emission factors approved by the Division." Similarly, Condition B.4.b on Pages 8, 11, and 13 state that one of the following factors can be used in the calculation: "the appropriate factor specified in Compilation of Air Pollutant Emission Factor (AP 42) or an emission test or emission factor approved by the Division." The exact particulate emission factor to be used in these calculations should be specified in the permit.

Response:

The particulate emission factor will be placed in the Statement of Basis so that the permit does not have to be reopened each time a stack test is done to determine the emission factor, or an emission factor changes.

EPA General Comments:

1. On pages 5, 8, 10, and 13, Condition B.4.b (Specific Monitoring Requirements) states that “the permittee shall monitor the amounts and types of process weight added to each emissions unit.” The wording of this condition is confusing. We assume the permit is directing the facility to monitor and record the type and amount of material charged into the furnace. However, it does not clearly state this, nor does it discuss the method by which process weights are determined or how often these determinations are made. More information is necessary to clarify the intent of the permit.

Response:

We agree that more information is required to clarify what is meant by process weight. This information has been added to the permit in the appropriate places.

EPA General Comments:

2. On page 6, Condition B.6 states that any exceedence over the fuel oil usage limits shall be reported. However, there are no fuel usage limits specified in the permit for Emission Units 01, 02, 03, or 04. This condition should be modified to be consistent with the other permit requirements.

Response:

This was a typographical error. It has been changed in the permit.

EPA General Comments:

3. The emission point numbers on DEP 7007N in the permit application are not consistent with the emission unit designations in the permit. We were unable to accurately correlate the pollutant emissions information specified in the permit application with emission units specified in the permit.

Response:

We agree that the numbers are not consistent. The first number in the permit corresponds to the Division’s emission inventory system number and the other numbers are the company numbers. However, we did not list all the company numbers. We have attached a key and have added all the additional numbers in the permit.

EPA General Comments:

4. On pages 4, 7, 9, and 12, Condition B.2.b (Emission Limitations), a statement about “hourly particulate emissions as measured by Reference Method 5, Appendix A, 40 CFR 60” is made.

Similarly, on pages 7, 10, and 12, Condition B.2 states, “sulfur dioxide emissions as measured by Reference Method 6 or 6c, Appendix A, 40 CFR 60, and averaged over three hours shall not exceed 3.25 tons/month.” It is unclear why these conditions refer to these particular reference test methods (Reference Methods 5 and 6 or 6c) in the Emission Limitation section of the permit. The section of the permit entitled Monitoring Requirements does not specify these methods for the source to use in determining compliance with the emission limits.

EPA Comments:

In order for the emission limitation to be practically enforceable, it specifies the compliance method and the averaging time to be used during a stack test where periodic monitoring provides reasonable assurance that the limitation is being met. Based upon the “Periodic Monitoring Guidance”, records of material inputs would provide adequate periodic monitoring when the likelihood of the source exceeding the emission limits are extremely low. Additionally, this document states that in many instances the duration of periodic monitoring will not match the averaging time for the emission limitation. It would be impractical for the source to maintain records using the emission limitation averaging time.

Response to Southwire's comments

RE: Draft Title V Permit for Southwire Company Hawesville, Kentucky
I.D. # 077-1580-0009
Permit No. V-98-008

Comment I - Page 4 of 23, Section B, Group Requirement, Emission Limitations 2(b): Southwire Company requests that the phrase "as measured by Reference Method 5, Appendix A, 40 CFR 60, averaged over three hours" be deleted. The current wording of this limitation could lead one to believe that all hourly particulate emissions should be measured using this test method, instead of calculating emissions using an emission factor. Furthermore, since Section D specifies the required performance testing, this phrase is not necessary throughout Section B.

Response:

Southwire's request that the reference method be deleted from the emission limitation to preclude misinterpretation is not acceptable because the emission limit must be quantified by making it practical to enforce. To be practical to enforce an emission limitation must specify the compliance method (reference test method). Periodic monitoring requirements are specified to provide reasonable assurance that the limit is being met during periods when the reference method is not in use. Unless required by the Division, a performance test using the reference methods is only required were specified in Section D.

Comment 2 - Page 5 of 23, Section B, Group Requirement, Specific Monitoring Requirements 4(b):

The second sentence of this requirement reads "The process weight shall be determined in average hourly tons added to each emission unit averaged over a one month period." Southwire company wishes to add a clarification to this requirement such that recording the average hourly tons added to each emission unit is performed once per shift in a logbook, instead of once for each hour of operation. This will reduce the amount of paperwork required under this monitoring provision without affecting the value with respect to compliance determination. We propose that this phrase be revised as follows: "The process weight shall be determined in average hourly tons added to each emission unit, recorded at least once per shift, and averaged over a one month period."

Response

The Division has clarified how process weight is determined. Look for this clarification in the attached permit.

Comment 3 - Section B, Page 6 of 23, Emission Point 14 (S3) Operating Limitation 1: Southwire Company requests that the requirement which stipulates that the fuel oil shall not exceed 0.5 % sulfur be deleted. While Southwire in fact did self-impose restrictions to avoid triggering PSD for S02, the restrictions were associated with the S02 emission rate and not necessarily the percent of sulfur in the fuel oil. Monitoring requirements contained within this permit for this emission point mandate monthly monitoring of the amount, sulfur content, and the type of fuel oil used. This monitoring will provide the means for calculating S02 emissions and thus demonstrating compliance with S02 limitations. Therefore, Southwire Company requests that the 0.5 % maximum sulfur in fuel oil

requirement be deleted.

Response

This comment has been withdrawn per telephone conversation with Chris Wathen, the company has requested that the sulfur content be raised to 0.7%. Fuel oil usage rates have been recalculated to ensure that PSD is not triggered.

Comment 4 - Section B, Page 7 of 23, Emission Point 14(S3) Emission Limitation 2(a): Southwire Company requests that the phrase "as measured by Reference Method 201 or 201A, Appendix M, 40 CFR 60, averaged over three hours" be deleted. Similar to the company's position indicated in Comment 1, the current wording of this limitation could lead one to believe that all hourly particulate emissions should be measured using this test method, instead of calculating emissions using an emission factor. Furthermore, since Section D specifies the required performance testing, this phrase is not necessary throughout Section B. Section D also allows the source to assume that all particulate matter is emitted as PM10, thus eliminating the need to perform a Method 201 or 201A test. Method 5 of 40 CFR 60, Appendix A would be the appropriate test method.

Response

Refer to response to comment # 1. Additionally, reference Method 201 or 201A is the appropriate method for measuring PM10, however the Division would allow the source to use the results of a Method 5 test for determining PM10 emission if all particulate emission are assumed to be PM10.

Comment 5 - Section B, Page 7 of 23, Emission Point 14(S3) Emission Limitation 2(b): Southwire Company requests that the phrase "as measured by Reference Method 6 or 6c, Appendix A, 40 CFR 60, averaged over three hours" be deleted. Similar to the company's position indicated in Comment 1, the current wording of this limitation could lead one to believe that all hourly SO2 emissions should be measured using this test method, instead of calculating emissions using an emission factor. Furthermore, no testing requirement for SO2 is contained within this permit. The calculation Of SO2 emissions from combustion of fuel oil is the only method necessary to determine compliance with SO2 limitations; testing should not be required.

Response

Refer to response to comment #1.

Comment 6 - Section B, Page 8 of 23, Emission Point 14(S3) SPECIFIC Monitoring Requirements
Same as Comment 2.

Response

Refer to response to comment #2.

Comment 7 - Section B, Page 8 of 23, Emission Point 14(S3) Specific Monitoring Requirement 4(b):

Southwire Company requests that the following sentence be deleted: "If more than one type of fuel is used during the month the highest hourly fuel particulate emission rate shall be used to demonstrate compliance." This statement is confusing as it appears in this permit. Compliance demonstration should be based upon actual emissions, which would mean that emissions from all fuels used during a particular month would need to be calculated, not just the highest hourly fuel particulate emission rate.

Response:

All requirements to do particulate calculations from the combustion have been deleted because stack test emission factors include fuel emission. See response to EPA comments # 1.

Comment 8 - Section B, Page 9 of 23, Emission Point 13(S6 & S7) Operating Limitations:

Same as Comment 3.

Response

Refer to response to comment #3.

Comment 9 - Section of 23, Emission Point 15(S6 & S7) Emission Limitation Same as Comment 4.

Response

Refer to response to comment #4.

Comment 10 - Section B, Page 10 of 23, Emission Point 13(S6 & S7) Emission Limitation 2(b)-1

Same as Comment 5.

Response

Refer to response to comment #5.

Comment 11 - Section B, Page 10 of 23, Emission Point 13(S6 & S7) Specific Monitoring Requirement 4(b):

Same as Comment 2.

Response

Refer to response to comment #2.

Comment 12 - Section B, Page 11I of 23, Emission Point 13(S6 & S7) Specific Monitoring Requirement 4(b):

Same as Comment 7.

Response

Refer to response to comment #7.

Comment 13 - Sect 2 of 23. Emission Point 21 (S8,S9) Description-

This description currently lists the furnaces as 12 mmBTU/hr furnaces. These furnaces are associated with Rod Mill # 3, which has recently commenced construction. Once the new furnaces are operational, they will have the capability to fire natural gas at an instantaneous heat input rate of up to 18 mmBTU/hr. However, the facility is not seeking to increase the fuel usage over the amount specified in the application; the furnaces will still remain at or under the 12 mmBTU/hr listed capacity based upon monthly average fuel usage rates. There are no specific requirements limiting the furnaces to 12 mmBTU/hr listed in this draft permit, nor will there be any annual increase in emissions above what was calculated in the Rod Mill # 3 permit application due to combustion of natural gas. Therefore, Southwire Company requests that the 12 mmBTU/hr listed in the description of these furnaces either be deleted or revised to list the heat input at 18 mmBTU/hr. Please note that this change does not affect the annual emissions listed in the permit application for the furnaces when fuel oil is combusted.

Response

The Division concurs that based upon the AP-42 emission factors, the increased emissions from the capacity increase will not trigger any additional requirements.

Comment 14 - Section B, Page 12 of 23, Emission Point 2 1 (S8, S9) Operatina Limitations:

Same as Comment 3.

Response

Refer to response to comment #3.

Comment 15 - Section B, Paae 12 of 23, Emission Point 21 (S8,S9) State Origin Limitations:

This section states that "only fluoride-free fluxing agents shall be used." While this was the original intent for flux usage in the new rod mill, future operational considerations are calling for the facility to remove this requirement and allow the use of fluoride containing flux. Southwire Company requests that this requirement be deleted to allow the use of fluoride containing flux in Rod Mill # 3. This requirement was originally applied to the facility to protect the secondary ambient standard for HF emissions. In order to assure that the secondary HF standard continues to be protected, Southwire Company will accept limitations on the fluoride-containing flux usage throughout the plant to allow flexibility in using the material as needed. The draft permit currently contains no requirements limiting the use of fluoride-containing flux other that that listed for the Rod Mill # 3 furnaces. The emissions summary accompanying the draft permit show potential emissions of HF to be 35.175 tons per year. This back-calculates to a fluoride-containing flux usage rate of 1954 tons per year (assuming 18 % of the fluoride in the flux is emitted, 10 % maximum F in the flux), which is far more that the facility will actually process. Southwire Company is proposing the following flux limitations for the facility to allow the processing of fluoride-containing flux in the Rod Mill # 3 furnaces:

Source	Flux Usage, pounds per day	Hf emissions, tons/year*
Rod Mill # 1	1000	0.47

Rod Mill # 2	1000	0.47
Rod Mill # 3	1000	0.47
Sourcewide	3000	1.41

Assumes 18 % of the F in flux is emitted as HF, 10 % max. F in flux

The projected total HF emission rate of 1.41 tons annually is far less than the 35.175 tons listed in the emissions summary. Also note that the sourcewide maximum flux usage rate of 3000 pounds per day proposed above is less than the amount currently allowed in Permit S-96-014 for Rod Mill # 2, which is 300 pounds per *hour*.

Therefore, based upon this data, Southwire Company wishes that the requirement to use only fluoride-free fluxing agents in Rod Mill # 3 be deleted, and if necessary, the limits proposed above be incorporated into the permit.

Response

The Division can not remove this requirement until the source demonstrates that the gaseous fluorides will not cause an exceedance of the Secondary Standards contained in Appendix A , 401 KAR 53:010, Ambient air standards. It should be noted that the Division does not concur with the above estimated HF emissions.

Comment 16 - Section B, Page 12 of 23. Emission Point 21 (S8, S9) Emission Limitation

Same as Comment 4.

Response

Refer to response to comment #4.

Comment 17 - Section B, Page 12 of 23, Emission Point 21 (S8,S9) Emission Limitation -

Same as Comment 5.

Response

Refer to response to comment #5

Comment 18 - Section B, Page 13 of 23, Emission Point (S8,S9) Specific Monitoring Requirements

Same as Comment 2.

Response

Refer to response to comment #2.

Comment 19 - Section B. Page 17 of 23. Emission Point 2 I(S8,S9) Specific Monitoring Requirement

4(b):

Same as Comment 7.

Response

Refer to response to comment #7.

Comment 20 - Section D, State Origin Requirements 2(a), (b), and (c)

Southwire Company requests clarification of these emission limitations. These limitations were listed in Permit S-94-039 as sourcewide limitations, but clearly these limitations only considered the potential emissions for the Dross Reclaimer, which has since been removed from operation at the facility.

To underscore our confusion, 2(a) lists that HF emissions shall not exceed 0.00249 lb/hr or 18 % of the fluoride present in the flux. Back-calculation of the maximum allowed flux input rate, assuming a maximum of 10 % F in the flux, reveals that the flux usage could not exceed 0.138 pounds of flux per hour before exceeding the 0.00249 lb/hr HF emission limit. This is clearly a misinterpretation, since Permit S-96-014, issued for the Holding Furnaces, allows a flux usage rate of 300 lbs/hr.

Similarly, requirement 2(b) limits aluminum oxide emissions to 3.68 lb/hr. This limit again originally appeared as a sourcewide limit in Permit S-94-039 for the Dross Reclaimer. A review of Permit S-94-039 shows that this limit was set equal to the particulate allowable for this unit, which is listed in that permit as 3.68 lbs/hr.

The same situation exists for the chlorine limit under 2(c) of the draft Title V permit, since Permit S-94-039 lists the requirement that sourcewide chlorine emissions shall not exceed 9.37 pounds per hour.

Based upon this confusion as to what these limits actually apply to, accompanied by the fact that the Dross Reclaimer unit for which Permit S-94-039 was issued is no longer operating, Southwire Company requests that these limits either be deleted completely or revised to reflect the appropriate current sourcewide allowables for these pollutants.

Response

The Division has removed the requirements specific to the dross reclaimer. However, plantwide allowables will remain until the source demonstrates that they are in error.